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NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

United States Patent and Trademark
Office
(Box PCT)
Crystal Plaza 2
Washington, DC 20231
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 23 June 1999 (23.06.99)	
International application No. PCT/US98/21556	Applicant's or agent's file reference RCA 88759
International filing date (day/month/year) 13 October 1998 (13.10.98)	Priority date (day/month/year) 14 October 1997 (14.10.97)
Applicant EBLING, Mark, Jacob et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
21 April 1999 (21.04.99)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Athina Nickitas-Etienne Telephone No.: (41-22) 338.83.38
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INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference RCA 88759	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 98/ 21556	International filing date (day/month/year) 13/10/1998	(Earliest) Priority Date (day/month/year) 14/10/1997
Applicant THOMSON CONSUMER ELECTRONICS, INC. et al.		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☒ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

6☐ None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 98/21556

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 H04N7/24 H04N5/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	EP 0 848 553 A (NEXTLEVEL SYSTEMS INC) 17 June 1998 see the whole document ---	1-21
P, X	US 5 818 935 A (MAA CHIA-YIU) 6 October 1998 see the whole document ---	1-21
P, X	EP 0 805 590 A (MATSUSHITA ELECTRIC IND CO LTD) 5 November 1997 see the whole document ---	1, 12
P, X	WO 97 43838 A (NOKIA OY AB ; SALOMAEKI ARI (FI)) 20 November 1997 see abstract ---	1, 12
	--- -/--	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

24 February 1999

Date of mailing of the international search report

16/03/1999

Name and mailing address of the ISA

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Authorized officer

Giannotti, P

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 98/21556

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	TEN KATE W. ET AL.: "trigg&link: a new dimension in television program making" MULTIMEDIA APPLICATIONS, SERVICES AND TECHNIQUES - ECMAS'T'97, 21 - 23 May 1997, pages 51-65, XP002094655 Milan, Italy see page 52, line 11 - page 53, line 14 see page 57, line 1 - page 58, line 16 see figure 2 ---	1-21
Y	ETS 300 468: "digital broadcasting systems for television, sound and data services; specification for service information (SI) in digital broadcasting (DVB) systems" EUROPEAN TELECOMMUNICATION STANDARD, ROPEAN TELECOMMUNICATIONS STANDARDS INSTITUTE, EU, October 1995, XP002079535 see section 6.2.8 on page 38 see section 6.2.13 on page 44 see 6.2.14 on page 45 ---	1-21
A	US 5 515 106 A (BRIDGEWATER KEVIN E ET AL) 7 May 1996 see the whole document ---	1-21
A	WO 96 42144 A (NOKIA OY AB ; SALOMAEKI ARI (FI)) 27 December 1996 see abstract ---	1-21
A	G. ALBERICO AND M. COMINETTI: "Satellite Interactive Multimedia: a new opportunity for broadcasters" INTERNATIONAL BROADCASTING CONVENTION, 12 - 16 September 1997, pages 18-23, XP002094656 London, UK, IEE, UK -----	

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 98/21556

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0848553	A	17-06-1998	CA 2223095 A CN 1195938 A JP 10247945 A	10-06-1998 14-10-1998 14-09-1998
US 5818935	A	06-10-1998	NONE	
EP 0805590	A	05-11-1997	JP 9298721 A CN 1173098 A	18-11-1997 11-02-1998
WO 9743838	A	20-11-1997	FI 961980 A AU 2702297 A	10-11-1997 05-12-1997
US 5515106	A	07-05-1996	AU 695654 B AU 1521795 A AU 680340 B AU 1598195 A AU 691209 B AU 8157294 A BR 9500013 A BR 9506446 A BR 9506447 A CA 2138603 A CA 2180111 A CA 2180112 A CN 1115950 A CN 1141707 A CN 1141708 A EP 0662771 A EP 0738449 A EP 0738450 A EP 0838958 A FI 962756 A FI 962757 A JP 8070451 A JP 9507359 T JP 9507361 T WO 9519091 A WO 9519092 A US 5642153 A	20-08-1998 01-08-1995 24-07-1997 01-08-1995 14-05-1998 13-07-1995 26-09-1995 02-09-1997 02-09-1997 06-07-1995 13-07-1995 13-07-1995 31-01-1996 29-01-1997 29-01-1997 12-07-1995 23-10-1996 23-10-1996 29-04-1998 30-07-1996 30-07-1996 12-03-1996 22-07-1997 22-07-1997 13-07-1995 13-07-1995 24-06-1997
WO 9642144	A	27-12-1996	FI 98175 B AU 6127696 A EP 0872053 A	15-01-1997 09-01-1997 21-10-1998



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : H04N 7/24, 5/00	A1	(11) International Publication Number: WO 99/20049 (43) International Publication Date: 22 April 1999 (22.04.99)
(21) International Application Number: PCT/US98/21556 (22) International Filing Date: 13 October 1998 (13.10.98) (30) Priority Data: 60/061,897 14 October 1997 (14.10.97) US (71) Applicant (for all designated States except US): THOMSON CONSUMER ELECTRONICS, INC. [US/US]; 10330 North Meridian Street, Indianapolis, IN 46290-1024 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): EBLING, Mark, Jacob [US/US]; 6709 Stearns Hill Drive, Indianapolis, IN 46237 (US). HEREDIA, Edwin, Arturo [BO/US]; Apartment 4015, 8274 Lakeshore Circle, Indianapolis, IN 46250 (US). NIRANJAN, Sithampara [LK/US]; 613 Canoe Court, Redwood City, CA 94065 (US). TENG, Chia-Yuan [-/US]; Apartment #119, 11825 Caminito Ronaldo, San Diego, CA 92128 (US). OZKAN, Mehmet, Kemal [TR/TR]; Savasci Sokak Bozokatt 19/1, Avcilar, 34840 Istanbul (TR). SAEGER, Timothy, William [US/US]; 1203 Angelic Court, Carmel, IN 46032 (US).	(74) Agents: TRIPOLI, Joseph, S. et al.; GE & RCA Licensing Management Operation, Inc., P.O. Box 5312, Princeton, NJ 08540 (US). (81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>With amended claims.</i>	

(54) Title: SYSTEM FOR FORMATTING AND PROCESSING MULTIMEDIA PROGRAM DATA AND PROGRAM GUIDE INFORMATION

SYNTAX	BITS	FORMAT
multimedia object descriptor() {		
descriptor_tag	8	0x5F
descriptor_length	8	uimsbf
605 object_type	8	uimsbf
if (object_type = 0xFF) {		
extended_object_type	16	uimsbf
610 }		
address_descriptor		
object_format	8	uimsbf
object_version_number	7	uimsbf
display_mode	1	0/1
object_start_time	40	uimsbf
object_duration_format	2	uimsbf
object_duration	14	uimsbf
object_frame_size	32	uimsbf
}		

(57) Abstract

A program specific information data structure facilitates communication of program content and program guide data with attached multimedia objects including audio, video, animation, still image, Internet, Email, text and other types of data. The data structure supports uni-directional communication applications, e.g. passive viewing, and bi-directional communication applications, e.g. interactive type functions. A decoder (100) processes packetized program data and program specific information containing ancillary description information including multimedia object type, location and other descriptive indicators. These indicators are used in acquiring (22, 60), and decoding (30, 37, 60) multimedia objects derived from different sources for presentation (45, 50) in composite video images representing video program content or program guides, for example. Additional ancillary location and acquisition description information enables acquisition of supplementary program specific information elements and program content data.

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
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EE	Estonia			SG	Singapore		

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference RCA 88759	FOR FURTHER ACTION		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US98/21556	International filing date (day/month/year) 13/10/1998	Priority date (day/month/year) 14/10/1997	
International Patent Classification (IPC) or national classification and IPC H04N7/24			
Applicant THOMSON CONSUMER ELECTRONICS, INC. et al.			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 7 sheets, including this cover sheet.

- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 10 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☒ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 21/04/1999	Date of completion of this report 22. 11. 99
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer de Dieuleveult, A Telephone No. +49 89 2399 8946 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US98/21556

I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

Description, pages:

1-27 as originally filed

Claims, No.:

1-48 as amended under Article 19

Drawings, sheets:

1/13-13/13 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application.
☒ claims Nos. 22-48.

because:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US98/21556

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 22-43 are so unclear that no meaningful opinion could be formed (*specify*):

see separate sheet

☒ the claims, or said claims Nos. 22-48 are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos. .

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-21
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-21
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-21
	No:	Claims	

2. Citations and explanations

see separate sheet

VI. Certain documents cited

1. Certain published documents (Rule 70.10)

and / or

2. Non-written disclosures (Rule 70.9)

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/US98/21556

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

III. **Non-establishment of report**

1. Claims 22 through 48, filed with the International Bureau under Article 19 PCT, have not been examined with respect to novelty, inventive step and industrial applicability because:
 - in independent claims 22, 35, 37 and 41: it is not clear what is meant by "information **describing a method** ...", said method description information comprising (a) information **enabling identification** of a method, and (b) information for **initiating activation** of said method upon a **predetermined event**"; and
 - no support of the features of any of claims 22 to 48 are to be found in the description.
2. Besides, since claims 1 through 21 are only concerned with "**multimedia object** description information comprising (a) **a location indicator identifying a location** of a multimedia for use in acquiring said multimedia object, and (b) **a type indicator identifying a multimedia object type** for use in decoding said multimedia object" (see independent claims 1, 10, 12 and 19), claims 22-48 would appear not to be so linked with claims 1-21 as to form a single general inventive concept (Rule 13.1 PCT).

V. **Reasoned statement**

1. Reference is made to the following documents:
 - D1: ETS 300 468: 'Digital broadcasting systems for television, sound and data services; specification for service information (SI) in digital broadcasting (DVB) systems' EUROPEAN TELECOMMUNICATION STANDARD, EUROPEAN TELECOMMUNICATIONS STANDARDS INSTITUTE, October 1995, XP002079535;
 - D2: TEN KATE W. ET AL.: 'trigg&link: a new dimension in television program making' MULTIMEDIA APPLICATIONS, SERVICES AND TECHNIQUES - ECMAS'T'97, 21 - 23 May 1997, pages 51-65, XP002094655 Milan, Italy.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US98/21556

2. Claims 1, 10, 12 and 19:

D1 discloses an apparatus for decoding (see "Decoder (IRD)" on page 7, paragraph 1) packetized program information (see "Transport Stream packets" on page 13, paragraph 5.1.2) from a first source to provide data content of a program, comprising:

means for identifying ancillary information (see "additional information" on page 7, paragraph 1) in said packetized program information, said ancillary information including information describing a multimedia object (such as the video, image or text to be displayed);

means for acquiring and decoding said multimedia object (implicitly); and

means for formatting said multimedia object for display (see "intended for display to the user" on page 7, paragraph 1).

D1 neither discloses nor fairly suggests multimedia object description information comprising both (a) a location indicator identifying a location of a multimedia object for use in acquiring said multimedia object, and (b) a type indicator identifying a multimedia object for use in decoding said multimedia object, so that said multimedia object can be acquired and decoded using said multimedia object description information, thus advantageously enabling multimedia objects at a plurality of different remote and local sources to be acquired at a decoder and assembled to produce an individual program and program guide for display to the user.

D2 only illustrates a multimedia object created by merging Internet and broadcast (see paragraph 2 on pages 52-53).

Consequently, claims 1, 10, 12 and 19 appear to satisfy the criteria of Article 33 PCT.

3. Claims 2-9, 11, 13-18, 20 and 21:

These claims are dependent claims and, as such, also meet the requirements of Article 33 PCT.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US98/21556

VI. Certain documents cited

1. According to Rule 64.3 PCT, the following documents are mentioned:
 - EP-A-0 848 553 filed on 03.12.97 and published on 17.06.98, claiming a priority date of 10.12.96;
 - EP-A-0 805 590 filed on 29.04.97 and published on 05.11.97, claiming a priority date of 02.05.96;
 - US-A-5,818,935 filed on 10.03.97 and published on 06.10.98;
 - WO-A-97/43838 filed on 07.05.97 and published on 20.11.97, claiming a priority date of 09.05.96.

VII. Certain defects

1. The independent claims are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art (document D1) being placed in a preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in a characterising part (Rule 6.3(b)(ii) PCT).
2. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1 and D2 are not mentioned in the description, nor are these documents identified therein.

CLAIMS

1. Apparatus for decoding packetized program information from a first source to provide data content of a program, comprising:

5 means for identifying (22,60) ancillary information in said packetized program information, said ancillary information including information describing a multimedia image object associated with an image in said packetized program information, said multimedia object description information comprising,

10 (a) a location indicator (610) identifying a location of a multimedia object for use in acquiring said multimedia object, and

(b) a type indicator (605) identifying a multimedia object type for use in decoding said multimedia object; and

15 means for acquiring and decoding (22, 30, 60) said multimedia object using said multimedia object description information; and

means for formatting (30, 37, 60) said multimedia object for display.

20 2. Apparatus according to claim 1, wherein said location indicator identifies a location of said multimedia object in one of (a) said packetized program information from said first source, and (b) information derived from a second source different to said first source.

25 3. Apparatus according to claim 2, wherein said location indicator identifies a location of said multimedia object derived from said first source using one of (a) an MPEG compatible packet Identifier (PID), (b) an MPEG compatible
30 Digital Storage Media code.

**REPLACED BY
ART 34 AMDT**

4. Apparatus according to claim 2, wherein
said location indicator identifies a location of said
multimedia object derived from said second source using one of (a) an
Internet URL, (b) an Internet IP address, (c) an Email address, (d) a
5 telephone/fax/videophone number.

5. Apparatus according to claim 4, wherein
said means for acquiring said multimedia object includes
establishing bi-directional communication with said second source
10 using said location indicator, and said bi-directional communication
path is different to the communication path between said decoding
apparatus and said first source.

6. Apparatus according to claim 1, wherein
15 said multimedia object type comprises at least one of, (a) a
video segment or still image, (b) an audio segment, (c) text, (d) an
Internet web page or Internet data, (e) an advertisement, (f) an icon
for user selection of a service, (g) an animation segment, (h) an Email
message, (i) a user prompting indicator, and (j) a broadcast channel
20 identification icon.

7. Apparatus according to claim 1, wherein
said multimedia object description information further
includes at least one of, (a) an object start time, (b) an object duration,
25 (c) an object display mode, (d) an object version number, (e) an object
format, for use in decoding.

8. Apparatus according to claim 1, wherein
said formatting means includes means for associating said
multimedia object with one of (a) a video image, and (b) audio data,
5 and

said formatting means forms a composite image for
display combining said multimedia object and at least one of, (a) an
electronic program guide, (b) a video program, and (c) an Internet
web page image.

10

9. Apparatus according to claim 1, wherein
said ancillary information comprises program specific
information for conveying an electronic program guide from said first
source, and wherein
15 said multimedia object is associated with said electronic
program guide.

10. A storage medium containing digital data representing
video information comprising:

20 packetized program information representing a video
program; and

ancillary information (205, 210, 215, 220) including
information describing a multimedia image object associated with an
image in said packetized program information, said multimedia object
25 description information comprising,

(a) a location indicator (610) identifying a location of
said multimedia object for use in acquiring said multimedia object,
and

(b) a type indicator (605) identifying a multimedia
30 object type for use in decoding said multimedia object; and

REPLACED BY
ART 34 AMDT

information (215; 825; 840) for associating said multimedia object with an image in said packetized program information.

5 11. A storage medium according to claim 10, wherein said ancillary information comprises program specific information containing an electronic program guide, and wherein said multimedia object is associated with said electronic program guide.

10

12. A method for forming program guide information at a first source suitable for decoding packetized program information to provide data content of a program, comprising the steps of:

forming information describing a multimedia image object
15 associated with an image in said packetized program information, said multimedia object description information comprising,

(a) a location indicator identifying a location of a multimedia object for use in acquiring said multimedia object, and

(b) a type indicator identifying a multimedia object
20 type for use in decoding said multimedia object; and

forming linking information associating said multimedia object with an image in said packetized program information; and

incorporating said multimedia object description information and said linking information into packetized data for
25 output to a transmission channel.

REPLACED BY
ART 34 AMDT

13. A method according to claim 12, wherein
said location indicator identifies a location of said
multimedia object in one of (a) said packetized program information
5 from said first source, and (b) information derived from a second
source different to said first source.

14. A method according to claim 13, wherein
said location indicator identifies a location of said
10 multimedia object from said first source using one of (a) an MPEG
compatible packet Identifier (PID), (b) an MPEG compatible Digital
Storage Media code.

15. A method according to claim 13, wherein
15 said location indicator identifies a location of said
multimedia object derived from said second source using one of (a) an
Internet URL, (b) an Internet IP address, (c) an Email address, (d) a
telephone/fax/videophone number.

20 16. A method according to claim 15, wherein
said multimedia object type comprises at least one of, (a) a
video segment or still image, (b) an audio segment, (c) text, (d) an
Internet web page or Internet data, (e) an advertisement, (f) an icon
for user selection of a service, (g) an animation segment, (h) an Email
25 message, (i) a user prompting indicator, and (j) a broadcast channel
identification icon.

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17. A method according to claim 12, wherein
said multimedia object description information further
includes at least one of, (a) an object start time, (b) an object duration,
5 (c) an object display mode, (d) an object version number, (e) an object
format, for use in decoding.

18. A method according to claim 12, wherein
said linking information associates said multimedia object
10 with at least one of, (a) an electronic program guide, (b) a video
program, (c) an audio program and (d) an Internet web page image.

19. A method for decoding packetized program
information to provide data content of a program, comprising the
15 steps of:

identifying ancillary information in said packetized
program information, said ancillary information including information
describing a multimedia image object associated with an image in said
packetized program information, said multimedia object description
20 information comprising,

(a) a location indicator identifying a location of a
multimedia object for use in acquiring said multimedia object, and

(b) a type indicator identifying a multimedia object
type for use in decoding said multimedia object; and

25 acquiring and decoding said multimedia object using said
multimedia object description information; and
formatting said multimedia object for display.

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20. A method according to claim 19, including the step of associating said multimedia object with one of (a) a video image, and (b) audio data.

5

21. A method according to claim 20, including the step of forming a composite image for display combining said multimedia object and at least one of, (a) an electronic program guide, (b) a video program, and (c) an Internet web page image.

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AMENDED CLAIMS

[received by the International Bureau on 30 March 1999 (30.03.99);
new claims 22-48 added; remaining claims unchanged (15 pages)]

1. Apparatus for decoding packetized program information
5 from a first source to provide data content of a program, comprising:
means for identifying (22,60) ancillary information in said
packetized program information, said ancillary information including
information describing a multimedia image object associated with an
image in said packetized program information, said multimedia object
10 description information comprising,
(a) a location indicator (610) identifying a location of
a multimedia object for use in acquiring said multimedia object, and
(b) a type indicator (605) identifying a multimedia
object type for use in decoding said multimedia object; and
15 means for acquiring and decoding (22, 30, 60) said
multimedia object using said multimedia object description
information; and
means for formatting (30, 37, 60) said multimedia object
for display.
20
2. Apparatus according to claim 1, wherein
said location indicator identifies a location of said
multimedia object in one of (a) said packetized program information
from said first source, and (b) information derived from a second
25 source different to said first source.

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3. Apparatus according to claim 2, wherein
said location indicator identifies a location of said
multimedia object derived from said first source using one of (a) an
5 MPEG compatible packet Identifier (PID), (b) an MPEG compatible
Digital Storage Media code.

4. Apparatus according to claim 2, wherein
said location indicator identifies a location of said
10 multimedia object derived from said second source using one of (a) an
Internet URL, (b) an Internet IP address, (c) an Email address, (d) a
telephone/fax/videophone number.

5. Apparatus according to claim 4, wherein
15 said means for acquiring said multimedia object includes
establishing bi-directional communication with said second source
using said location indicator, and said bi-directional communication
path is different to the communication path between said decoding
apparatus and said first source.

20 6. Apparatus according to claim 1, wherein
said multimedia object type comprises at least one of, (a) a
video segment or still image, (b) an audio segment, (c) text, (d) an
Internet web page or Internet data, (e) an advertisement, (f) an icon
25 for user selection of a service, (g) an animation segment, (h) an Email
message, (i) a user prompting indicator, and (j) a broadcast channel
identification icon.

7. Apparatus according to claim 1, wherein
said multimedia object description information further
includes at least one of, (a) an object start time, (b) an object duration,
5 (c) an object display mode, (d) an object version number, (e) an object
format, for use in decoding.

8. Apparatus according to claim 1, wherein
said formatting means includes means for associating said
10 multimedia object with one of (a) a video image, and (b) audio data,
and

said formatting means forms a composite image for
display combining said multimedia object and at least one of, (a) an
electronic program guide, (b) a video program, and (c) an Internet
15 web page image.

9. Apparatus according to claim 1, wherein
said ancillary information comprises program specific
information for conveying an electronic program guide from said first
20 source, and wherein

said multimedia object is associated with said electronic
program guide.

10. A storage medium containing digital data representing
25 video information comprising:

packetized program information representing a video
program; and

ancillary information (205, 210, 215, 220) including
information describing a multimedia image object associated with an

image in said packetized program information, said multimedia object description information comprising,

(a) a location indicator (610) identifying a location of said multimedia object for use in acquiring said multimedia object,
5 and

(b) a type indicator (605) identifying a multimedia object type for use in decoding said multimedia object; and

information (215; 825; 840) for associating said multimedia object with an image in said packetized program
10 information.

11. A storage medium according to claim 10, wherein said ancillary information comprises program specific information containing an electronic program guide, and wherein
15 said multimedia object is associated with said electronic program guide.

12. A method for forming program guide information at a first source suitable for decoding packetized program information to
20 provide data content of a program, comprising the steps of:

forming information describing a multimedia image object associated with an image in said packetized program information, said multimedia object description information comprising,

(a) a location indicator identifying a location of a
25 multimedia object for use in acquiring said multimedia object, and

(b) a type indicator identifying a multimedia object type for use in decoding said multimedia object; and

forming linking information associating said multimedia object with an image in said packetized program information; and

incorporating said multimedia object description information and said linking information into packetized data for output to a transmission channel.

5 13. A method according to claim 12, wherein
said location indicator identifies a location of said
multimedia object in one of (a) said packetized program information
from said first source, and (b) information derived from a second
source different to said first source.

10 14. A method according to claim 13, wherein
said location indicator identifies a location of said
multimedia object from said first source using one of (a) an MPEG
compatible packet Identifier (PID), (b) an MPEG compatible Digital
15 Storage Media code.

 15. A method according to claim 13, wherein
said location indicator identifies a location of said
multimedia object derived from said second source using one of (a) an
20 Internet URL, (b) an Internet IP address, (c) an Email address, (d) a
telephone/fax/videophone number.

 16. A method according to claim 15, wherein
said multimedia object type comprises at least one of, (a) a
25 video segment or still image, (b) an audio segment, (c) text, (d) an
Internet web page or Internet data, (e) an advertisement, (f) an icon
for user selection of a service, (g) an animation segment, (h) an Email
message, (i) a user prompting indicator, and (j) a broadcast channel
identification icon.

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17. A method according to claim 12, wherein
said multimedia object description information further
includes at least one of, (a) an object start time, (b) an object duration,
5 (c) an object display mode, (d) an object version number, (e) an object
format, for use in decoding.

18. A method according to claim 12, wherein
said linking information associates said multimedia object
10 with at least one of, (a) an electronic program guide, (b) a video
program, (c) an audio program and (d) an Internet web page image.

19. A method for decoding packetized program
information to provide data content of a program, comprising the
15 steps of:

identifying ancillary information in said packetized
program information, said ancillary information including information
describing a multimedia image object associated with an image in said
packetized program information, said multimedia object description
20 information comprising.

(a) a location indicator identifying a location of a
multimedia object for use in acquiring said multimedia object, and

(b) a type indicator identifying a multimedia object
type for use in decoding said multimedia object; and

25 acquiring and decoding said multimedia object using said
multimedia object description information; and
formatting said multimedia object for display.

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20. A method according to claim 19, including the step of associating said multimedia object with one of (a) a video image, and (b) audio data.

5

21. A method according to claim 20, including the step of forming a composite image for display combining said multimedia object and at least one of, (a) an electronic program guide, (b) a video program, and (c) an Internet web page image.

10

22. Apparatus for decoding packetized program information from a first source to provide data content of a program, comprising:

15 means for identifying ancillary information in said packetized program information, said ancillary information including information describing a method associated with an image object in said packetized program information, said method description information comprising,

20 (a) information enabling identification of a method, and

(b) information for initiating activation of said method upon a predetermined event; and

means for acquiring and decoding said method using said method description information; and

25 means for initiating activation of said method upon said predetermined event using said method description information.

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23. Apparatus according to claim 22, wherein
said method comprises software for performing at least
one of the following functions, (a) altering user interface display
5 controls, (b) generating an image window within an encompassing
image (c) generating an HTML or SGML document (d) generating a
menu of selectable items (e) generating an icon representing a user
selectable item for display, (f) generating an image window for
initiating Internet access, (g) generating an image window supporting
10 an electronic commerce transaction, and (h) dialing a telephone
number.

24. Apparatus according to claim 23, wherein altering user
interface display controls comprises modifying at least one of
15 (a) keyboard/mouse button response characteristics, (b)
display video characteristics, and (c) audio characteristics.

25. Apparatus according to claim 22, wherein
said method comprises software for at least one of,
20 (a) providing descriptive text for said image object,
and
(b) providing at least one user selectable control
item associated with said image object.

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26. Apparatus according to claim 22, wherein
said information for initiating activation of said method
upon a predetermined event comprises information for at least one of,
5 (a) activating said method in response to user selection of a command
or displayed menu item, (b) activating said method in response to a
scheduled event, (c) activating said method in sequence following
completion of a particular function, and (d) activating said method
substantially immediately said method is processed and ready for
10 activation.

27. Apparatus according to claim 26, wherein
said information for initiating activation of said method
upon a scheduled event comprises a start time indication.
15

28. Apparatus according to claim 27, wherein
said start time indication is associated with a specific
video program and is derived from electronic program guide
information.
20

29. Apparatus according to claim 27, wherein
said information for initiating activation of said method
further includes a duration.

30. Apparatus according to claim 22, wherein
said ancillary information includes electronic program
guide information from said first source.
25

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31. Apparatus according to claim 27, wherein
said ancillary information further includes information for
acquiring said method from said first source comprising,

5 a data identifier for identifying a location of said method
conveyed within said packetized program information from said first
source.

32. Apparatus according to claim 22, wherein
10 said ancillary information further includes acquisition
information for use in acquiring said method from a second source
different to said first source, and

said acquisition information includes one of (a) an
Internet URL, (b) an Internet IP address, (c) an Email address, and (d)
15 a telephone/fax/videophone number.

33. Apparatus according to claim 32, wherein
said means for acquiring said method includes
establishing bi-directional communication with said second source
20 using said acquisition information, and said bi-directional
communication path is different to the communication path between
said decoding apparatus and said first source.

34. Apparatus according to claim 22, including
25 formatting means for forming a composite image for
display combining an image produced using said method and at least
one of, (a) an electronic program guide, (b) a video program, and (c)
an Internet web page image.

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35. A storage medium containing digital data representing video information comprising:

packetized program information representing a video program; and

5 ancillary information including information describing a method associated with an image object in said packetized program information, said method description information comprising,

(a) information enabling identification of a method, and

10 (b) information for initiating activation of said method upon a predetermined event; and

information for associating said method with an image object in said packetized program information.

15 36. A storage medium according to claim 35, wherein said ancillary information includes electronic program guide information, and wherein

said method is associated with said electronic program guide.

20

37. A method for forming program guide information at a first source suitable for decoding packetized program information to provide data content of a program, comprising the steps of:

25 forming information describing a method associated with one or more images in said packetized program information, said method description information comprising,

(a) information enabling identification of a method, and

30 (b) information for initiating activation of said method upon a predetermined event; and

forming linking information associating said method with an image in said packetized program information; and

5 incorporating said method description information and said linking information into packetized data for output to a transmission channel.

38. A method according to claim 37, wherein said method identification information identifies a location of said method in said packetized program information from said first
10 source.

39. A method according to claim 37, wherein said method description information includes data for acquiring said method from a second source different to said first
15 source using one of (a) an Internet URL, (b) an Internet IP address, (c) an Email address, (d) a telephone/fax/videophone number.

40. A method according to claim 37, wherein said linking information associates said method with at least one of, (a) an electronic program guide, (b) a video program, (c)
20 an audio program and (d) an Internet web page image.

41. A method for processing packetized program information to provide data content of a program, comprising the
25 steps of:

identifying ancillary information in said packetized program information, said ancillary information including information describing a method associated with one or more images in said packetized program information, said method description information
30 comprising.

(a) information enabling identification of a method, and

(b) information for initiating activation of said method upon a predetermined event; and

5 acquiring and decoding said method using said method description information; and

initiating activation of said method upon said predetermined event using said method description information.

10 42. A method according to claim 41, wherein said acquiring step comprises

acquiring said method from a second source different to said first source, using one of (a) an Internet URL, (b) an Internet IP address, (c) an Email address, and (d) a telephone/fax/videophone
15 number.

43. A method according to claim 41, wherein said initiating activation step comprises

initiating activation of said method by at least one of, (a)
20 activating said method in response to user selection of a command or displayed menu item, (b) activating said method in response to a scheduled event, (c) activating said method in sequence following completion of a particular function, and (d) activating said method substantially immediately said method is processed and ready for
25 activation.

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44. A method for processing packetized program information from a first source to provide data content of a program, comprising the steps of:

5 identifying ancillary information in said packetized program information, said ancillary information including,

(a) a first identifier for identifying a location of data representing a multimedia object, and

(b) a second identifier for identifying a location of
10 data representing program guide information, and

(c) a third identifier for identifying a location of data representing a video program in said packetized program information, and

acquiring and decoding said multimedia object, said
15 program guide information and said video program data using said ancillary information; and

formatting acquired data for display.

45. A method according to claim 44, wherein said ancillary
20 information further includes

(d) a fourth identifier for identifying a location of data representing a method.

46. A method according to claim 44, wherein said said
25 first, second and third identifiers identify a location of said multimedia object in either one of (a) said packetized program information from said first source, and (b) information derived from a second source different to said first source.

47. A method according to claim 46, wherein said
information is derived from said second source different
to said first source using one of (a) an Internet URL, (b) an Internet IP
address, (c) an Email address, (d) a telephone/fax/videophone
5 number.

48. A method according to claim 44, wherein said
formatting step includes the steps of
associating said multimedia object with one of (a) a video
10 image, and (b) audio data, and
forming a composite image for display combining said
multimedia object and at least one of, (a) an electronic program guide,
(b) a video program, and (c) an Internet web page image.

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